

## CLAIMS

1. An information recording/reproducing method, comprising the steps of:

applying a magnetic field to form a magnetic recording domain while heating partially a recording medium for storing an information with the recording magnetic domain of a magnetic recording layer on a substrate surface, and

scanning on the recording medium so that a magnetic flux from the magnetic recording domain is detected to reproduce by a magnetic flux detecting means whose longitudinal axis is in accord with a magnetic wall orientation of the magnetic recording domain.

2. An information recording/reproducing apparatus for a recording medium for storing an information with a recording magnetic domain in a magnetic recording layer formed on a substrate, comprising,

heating means for heating partially the recording medium,

magnetic field applying means for applying a magnetic field to the vicinity of an area heated by the heating means, and

magnetic flux detecting means for detecting a magnetic flux with scanning on the recording medium,

characterized in that a tracking position of the heating means is changed relatively with respect to

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a tracking position of the magnetic flux detecting means, in accordance with a radial position of a track scanned on the disk.

3. An information recording/reproducing apparatus for a magnetic recording medium for storing an information with a recording magnetic domain in a magnetic recording layer formed on a substrate surface, comprising,

heating means for heating partially the recording medium, magnetic field applying means for applying a magnetic field to the vicinity of an area heated by the heating means, and a swing-arm-shaped supporting portion on which magnetic flux detecting means for detecting a magnetic flux on the recording medium is mounted, characterized in that a shape of the area of the magnetic recording medium heated by the heating means rotates in accordance with a rotational direction of the swing arm.

4. An information recording/reproducing apparatus according to claim 3, characterized in that a longitudinal direction of the heated area by the heating means is substantially parallel to a longitudinal direction of the magnetic flux detecting means.

5. An information recording/reproducing apparatus according to claim 3 or 4, characterized in that

the heating means is a light emitting means

8. An information recording/reproducing apparatus and information recording medium according to claim 2 or 6, characterized in that the recording medium has an information recording layer on a substrate surface including recess-and-projection

structure on the surface, and the magnetic flux detecting means scans approximately a center of a circumferential projection area of the recording medium.

9. An information recording/reproducing apparatus according to claim 8, using the recording medium according to claim 8, characterized in that an angle of the recess-and-projection structure with respect to the track direction is substantially in accord with an angle of the magnetic flux detecting means with respect to the track direction, at each position on the recording medium.

10. An information recording medium comprising a magnetic recording layer on a substrate surface including recess-and-projection structure on the surface, to store an information with a recording magnetic domain formed by heating the magnetic recording layer and applying a magnetic field to the magnetic recording layer, characterized in that the projection (track) has a width substantially constant between outer and inner circumferences of the recording medium, and the recess (track groove) has a width at outer and/or inner circumference side of the recording medium relatively greater than a width at an intermediate portion of the recording medium.

11. An information recording medium according to claim 10, characterized in that the recording medium surface has the recess-and-projection structure

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representing servo-information, address-information, clock-information, ROM data or the like, and the recess-and-projection structure is formed with an angle with respect to the track direction, varying according to respective radial position on the recording medium.

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